

Claims :

1. A method for a mobile unit determining a data transmit diversity mode of a base station in a wireless communication system, comprising:
 - (a) estimating a first channel feedback weight of said mobile unit during a first time slot, said first channel feedback weight having a first feedback phase ;
 - (b) estimating a second feedback weight of said mobile unit during a second time slot, said second channel feedback weight having a second feedback phase ; and
 - (c) determining said data transmit diversity mode of said base station according to said first feedback phase and said second feedback phase.
2. The method of claim 1, step (c) further comprising:
 - (d) obtaining a phase difference of said first feedback phase and said second feedback phase; and
 - (e) determining said data transmit diversity mode of said base station according to said phase difference.
3. The method of claim 2, step (e) further comprising:
 - (f) adding a first value to a determining value if said phase difference is greater than a first predetermined value, and subtracting said determining value by a second value if said phase difference is less than said first predetermined value; and
 - (g) sending a command of disabling a closed loop transmit diversity mode to said base station if said determining value is greater than a second predetermined value.
4. The method of claim 3, said first value being equal to said second value.
5. A method for a mobile unit determining a data transmit diversity mode of a base station in a wireless communication system, comprising:
 - (a) calculating a tune weight of said mobile unit corresponding to a signal received

- from said base station during a current time slot, said tune weight having a tune phase;
- (b) estimating a feedback weight of said mobile unit during said current time slot, said feedback weight having a feedback phase; and
- (c) determining said data transmit diversity mode of said base station according to said tune weight and said feedback weight.
6. The method of claim 5, wherein said tune weight of step (a) is a difference of a channel signal from a common pilot channel and a pilot symbol of a dedicated physical channel of said base station.
7. The method of claim 5, step (c) further comprising:
- (d) obtaining a phase difference of said tune phase and said feedback phase; and
- (e) determining said data transmit diversity mode of said base station according to said phase difference.
8. The method of claim 7, step (e) further comprising:
- (f) adding a first value to a determining value if said phase difference is greater than a first predetermined value, and subtracting said determining value by a second value if said phase difference is less than said first predetermined value; and
- (g) sending a command of disabling a closed loop transmit diversity mode to said base station if said determining value is greater than a second predetermined value.
9. The method of claim 8, said first value being equal to said second value.
10. An apparatus for a mobile unit determining a data transmit diversity mode of a base station in a wireless communication system, comprising:
- an estimating unit for estimating a first channel feedback weight of said mobile unit during a first time slot, said first feedback weight having a first feedback phase, and for estimating a second feedback weight of said mobile unit during a second time slot, said second feedback weight having a second feedback phase ; and

a determining unit for determining said data transmit diversity mode of said base station according to said first feedback phase and said second feedback phase.

11. The apparatus of claim 10, said determining unit further comprising:

a comparing unit for obtaining a phase difference of said first feedback phase and said second feedback phase;

a weight unit for adding a first value to a determining value if said phase difference is greater than a first predetermined value, and subtracting said determining value by a second value if said phase difference is less than said first predetermined value; and

a sending unit for sending a command of disabling a closed loop transmit diversity mode to said base station if said determining value is greater than a second predetermined value.

12. An apparatus for a mobile unit determining a data transmit diversity mode of a base station in a wireless communication system, comprising:

a calculating unit for calculating a tune weight of said mobile unit corresponding to a signal received from said base station during a current time slot, said tune weight having a tune phase;

an estimating unit for estimating a feedback weight of said mobile unit during said current time slot, said feedback weight having a feedback phase; and

a determining unit for determining said data transmit diversity mode of said base station according to said tune weight and said feedback weight.

13. The method of claim 12, wherein said tune weight is a difference of a channel signal from a common pilot channel and a pilot symbol of a dedicated physical channel of said base station.

14. The apparatus of claim 12, said determining unit further comprising:

a comparing unit for obtaining a phase difference of said tune phase and said

feedback phase;

a weight unit for adding a first value to a determining value if said phase difference is greater than a first predetermined value, and subtracting said determining value by a second value if said phase difference is less than said first predetermined value; and

a sending unit for sending a command of disabling a closed loop transmit diversity mode to said base station if said determining value is greater than a second predetermined value.